Ride the Lion 338-450 S-1 IM 1.37 D36/corr.

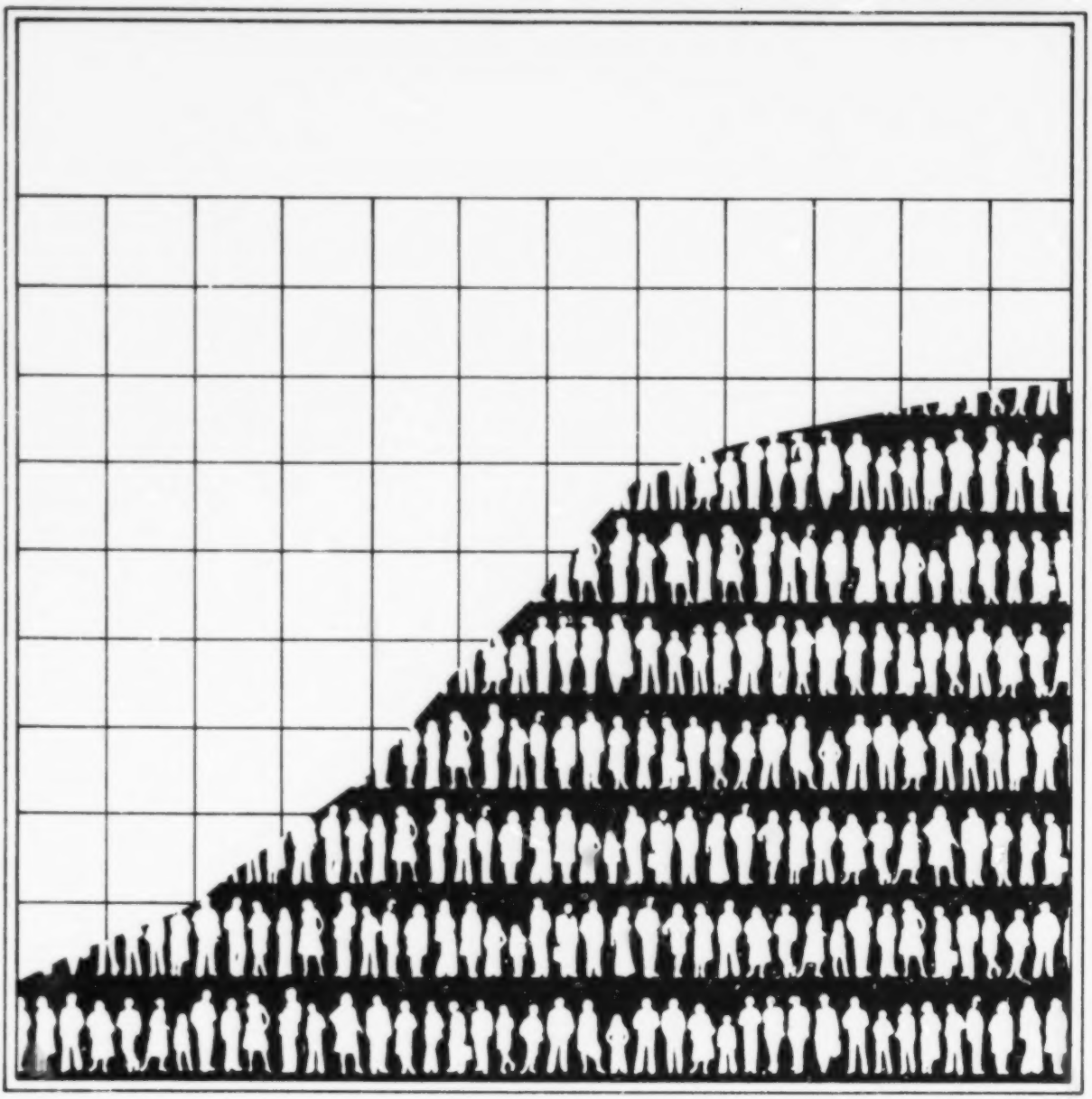
United States
Office of
Personnel
Management
Workforce
Effectiveness and
Development
Group

DOD's Productivity-Enhancing Incentive Funds Program

ORIGINAL
COMPLETED
27

Corrected Copy

See Inside Front Cover



WPR-7
November 1981

A printer's error during the last printing of this pamphlet caused some copies to contain the wrong pages. If you received any of the defective copies, please discard them and substitute these corrected copies.

BEST DOCUMENT AVAILABLE

United States
Office of
Personnel
Management

Workforce
Effectiveness and
Development
Group

EXEMPLARY PRACTICES IN FEDERAL PRODUCTIVITY

DOD's Productivity-Enhancing Incentive Funds Program

The fourth in a series
of publications on
Exemplary Practices in
Federal Productivity

Stephen Bryant
Principal Analyst

Office of
Productivity
Programs

Program
Development
Division
PO Box 14108
Washington, D.C. 20044

WPR-7
November 1981

PLEASE PRESS

I

BEST DOCUMENT AVAILABLE

II

BLANK PAGE

Foreword

Exemplary Practices in Federal Productivity

The Office of Personnel Management has launched the Exemplary Practices in Federal Productivity Program to identify, validate, and document improvements in Federal productivity. Once OPM has located and analyzed methods or procedures with outstanding results, it describes the practices in a series of publications distributed throughout government. Designed for use by managers and supervisors, the publications are published and disseminated through OPM's Productivity Resource Center.

OPM's Office of Productivity Programs (OPP) within the Workforce Effectiveness and Development Group (WED) is seeking nominations from Federal managers of projects they have undertaken to improve their organizations' productivity. Many Federal agencies have already conducted productivity improvement projects ranging from total system improvements to specialized adjustments in single processes or work units. Techniques and practices found successful by some Federal managers can be of great benefit to others.

The Exemplary Practices Program has reviewed productivity improvements in capital investment, equipment maintenance, financial and accounting processes, and case management. OPP has received other nominations and is conducting preliminary analyses of them. This study of DOD's Productivity-Enhancing Incentive Funds Program is another in this series of publications identifying productivity improvements in Federal agencies. The exemplary practices program will help ensure that the insight and experience gained through new successful productivity practices will be made available to as wide a range of potential users as possible.

Blair G. Ewing
Assistant Director
Office of Productivity Programs

BEST DOCUMENT AVAILABLE

BLANK PAGE

Table of Contents

Foreword iii

Executive Summary vi

Chapter 1 Introduction: Program Background and the Need for Alternative Productivity Funding 1

Chapter 2 How the PEIF Program Operates 2

Chapter 3 Evaluation of the PEIF Program 5

Chapter 4 Implications of the PEIF Program for Federal Productivity 8

Chapter 5 Conclusions: The Role of Capital Investment in Federal Productivity 9

Source Documents 10

Appendix: Nominations for Examples of Federal Productivity 11

Acknowledgements 12

Evaluation Form 13

BEST DOCUMENT AVAILABLE

Executive Summary

Productivity improvements offer an effective means to improve the use of resources and combat inflationary trends in the Federal government. An innovative method of improving productivity is the Department of Defense's "Productivity-Enhancing Incentive Funds (PEIF)," a part of DOD's "Productivity-Enhancing Capital Investment Program. Established as a supplement to the traditional DOD budget and procurement process, it makes available special "grant funds" for low cost, quick return investments.

To initiate the program, Congress appropriated $19.3 million in FY77 and $13.5 million in FY79. In FY80, the program has $10.6 million. These funds, divided among the three DOD service branches, become fast payback investment capital to be used essentially for small equipment purchases that will save labor and material at military installations. The equipment purchased includes such disparate items as office copiers, bit grinders, band saws, chrome plating machines, power sweepers, and stock selection trucks. All of the purchases are to produce savings equal to or greater than their original costs within two years. As a result, the program is known as a fast-payback productivity effort because of the immediate nature of the savings to be produced; however, savings are not paid back in actual dollars, but appear in lowered staff or budget requests or as increased workloads accomplished.

In 1978, the General Accounting Office (GAO) released a report to Congress evaluating parts of the program. After reviewing 41 projects funded by the program, GAO found that 22% had estimated savings that were valid and supported by the data available. The rest of the projects were either invalid or unsupported by the data. GAO's report concluded that the basic concept of the program was sound, and it should be continued in view of the potential savings. DOD has initiated actions since that time which are expected to improve the program's credibility.

A major contribution of this type of program is that it focuses management's attention on productivity-generated savings. By making available a source of funds free from the long lead times usually required for budget requests, managers can quickly take advantage of opportunities for savings. Disincentives may still exist for managers such as the possibility of reductions in staff and budgets that result from savings; however, incentives for improved performance mandated by the Civil Service Reform Act of 1978 make productivity more important than ever for managers and should offset any fears of diminished staff or budget.

Accordingly, the Office of Personnel Management has identified the DOD program as an "exemplary practice" that other Federal agencies may wish to adopt or adapt. This study of the productivity-enhancing incentive funds program is the fourth in this series of publications describing productivity improvements in Federal agencies.

BEST DOCUMENT AVAILABLE

Chapter 1

Program Background and the Need for Alternative Productivity Funding

In June, 1972, a study group comprised of representatives from the Civil Service Commission (CSC), General Accounting Office (GAO), and Office of Management and Budget (OMB) evaluated the feasibility of productivity measurement in the Federal Government. One section of their report discussed the potential for improving productivity through capital investment.

The report contained a limited survey of nine agencies, including the Department of Defense, which indicated a backlog of $242 million in potential productivity-enhancing investments. A possible reason for the backlog at the time of the study and at present is the restrictive nature of the Federal investment process. Seldom, if ever, do managers have money in their budgets to make every investment they want, and DOD found that its managers assigned productivity-enhancing equipment proposals lower priority than more "mission essential" budget requests. For example, DOD's procurement and construction program includes funds each year for modernizing specific functions or missions such as those in shipyards or storage depots. These modernization projects require sizable investments over a period of time and are predicated on securing long-term returns. Consequently, small investments which promise early return of costs must compete with these larger, more visible investments.

Small investments also face other obstacles in the DOD budget, such as the delay involved in budget requests. Because of the elapsed time—sometimes three years—between the identification of a productivity project and the actual receipt of funds, the savings, perhaps exceeding the cost of the investment, are lost. The delay in acquiring the money also diminishes its buying power as costs increase. After examining these factors, DOD decided to implement one of the alternative approaches recommended by the joint CSC, GAO, and OMB study. A special "grant" or incentive fund was proposed and accepted for FY77 which earmarked money to be used for fast payback, productivity-enhancing capital investment in small equipment.

DOD already had some experience with alternative funding for productivity improvement. For example, from 1973 to 1975 the Department of the Army's productivity fund invested over $10 million in government-owned contractor operated facilities and reported savings of almost $18 million. In addition, the Navy reported savings of $300,000 on a $100,000 productivity enhancement program. These programs, however, were limited in their applicability to other DOD operations. The Army program, for instance, involved only its ammunition facilities. Nevertheless, the work drew favorable responses from several people, including Senator William Proxmire who commended these programs in the *Congressional Record* in January, 1976.

Because of the favorable results and the desire to concentrate and focus productivity improvement, the Secretary of Defense established the Defense Productivity Program in August, 1975. Its general goal is "to encourage Defense managers to use all available techniques to enhance the relationships between their mission outputs and their resource inputs."* One part of this overall DOD program is the Productivity-Enhancing Incentive Funds (PEIF) program.

This program was once called the "Productivity-Enhancing Capital Investment Program (PECI)." However, DOD retitled it as PEIF in order to distinguish it from other features of the department's overall capital investment program.

The PEIF program's specific objectives are: (1) to seek out opportunities for investment which will improve use of resources, especially to produce savings in labor and material, and (2) to provide a capability for financing these opportunities promptly. To achieve these objectives, DOD established special PEIF funds to finance fast payback investments, and Congress approved the first appropriation for the program for FY77. The program was not funded in FY78, but was restored in FY79 and will be continued in FY80.

Because of the innovative way it funds capital investments, this program has been the subject of several reviews, all ultimately supporting its basic concept. In an era of increasing financial austerity for government, capital investments promise to use existing resources better, and the resulting savings can be diverted to other uses. The PEIF program is only one capital investment strategy DOD employs in its overall productivity effort; however, DOD's experience in this technique is instructive for other government agencies.

*Department of Defense, "Productivity Enhancing Capital Investments: Program Summary and Plan for FY 1979" (March 1978), p. 4.

BEST DOCUMENT AVAILABLE

Chapter 2

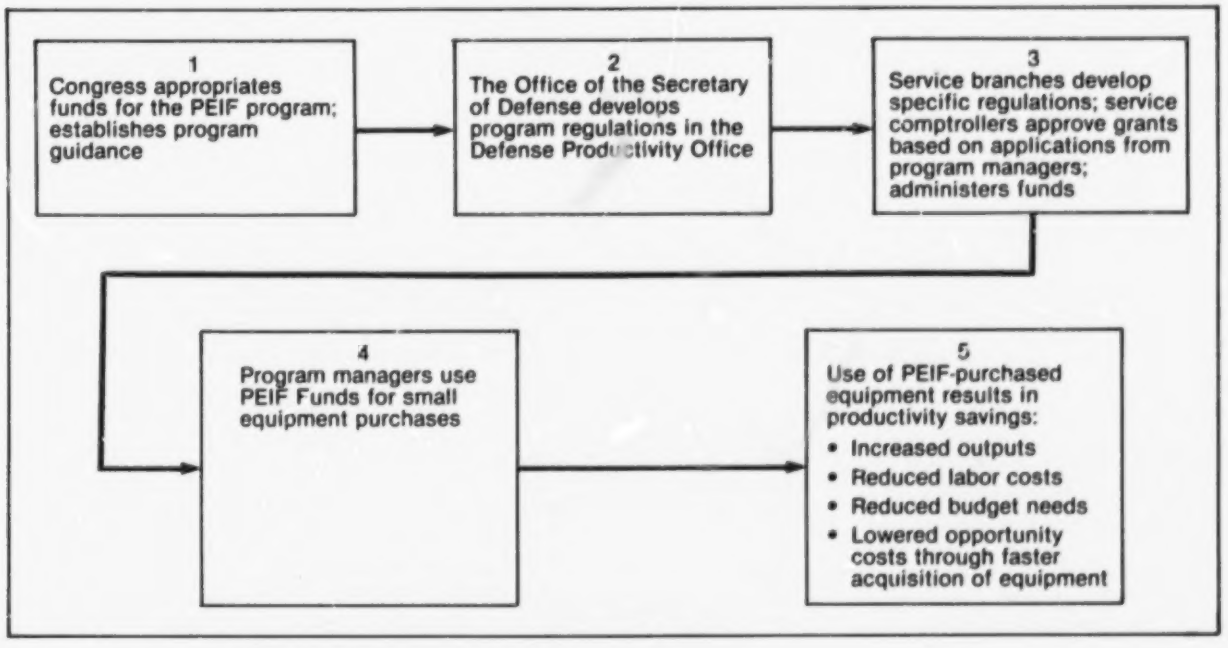
How the PEIF Program Operates

The PEIF program has been in operation for two years. During these years, the program has had different funding levels and different regulations. For example, it received no funds at all in FY78 and received only 70% of its FY77 allocation when the program was restored in FY79. Furthermore, Congress placed a limit of $40,000 per item that could be spent on PECI equipment in FY79 and then raised that limit to $100,000 for FY80. In addition, within the broad guidance given by Congress and the Secretary of Defense, service branches traditionally use different approaches for identifying projects as well as for operating their respective programs. Despite the changes, the program retains its basic feature—it is essentially a grant program operated internally within DOD for productivity enhancement.

The basic grant funding mechanism is shown in Chart 1, "A Simplified Model of DOD's Productivity Enhancing Incentive Fund Program." The chart reduces the program to a simplified flow process as funds move from congressional appropriations to the final step of producing productivity savings. Each step in this flow is represented by a box in the chart. The chart simplifies and describes the multiple steps involved in operating the program, but it is not an attempt to list every action required by the program.

1. Box 1 shows the program starting when Congress appropriates funds and gives broad guidance to DOD on how the program should be operated, e.g., the dollar limit on the size of projects.
2. In box 2, the Office of the Secretary of Defense, and particularly the Defense Productivity Program Office, draws up department-wide guidance for the three service branches.
3. In box 3, the three service branches draw up specific regulations for operating the program and decide on applications their program managers submit for grants.
4. In box 4, program managers use funds to buy "off-the-shelf" equipment.

Chart No. 1 Simplified Model of DoD's Productivity Enhancing Investment Funds (PEIF) Program


1
Congress appropriates funds for the PEIF program; establishes program guidance
2
The Office of the Secretary of Defense develops program regulations in the Defense Productivity Office
3
Service branches develop specific regulations; service comptrollers approve grants based on applications from program managers; administers funds
4
Program managers use PEIF Funds for small equipment purchases
5
Use of PEIF-purchased equipment results in productivity savings:
• Increased outputs
• Reduced labor costs
• Reduced budget needs
• Lowered opportunity costs through faster acquisition of equipment

BEST DOCUMENT AVAILABLE

5 Purchase of this equipment and its installation lead to the events in box 5. Productivity savings results from:

- increased outputs
- reduced labor costs
- reduced budget needs
- lowered opportunity costs through faster acquisition of equipment.*

One of the major outcomes of this program is the lowered personnel costs produced by capital investments replacing labor. DOD regulations direct that employees who have their jobs displaced by equipment can be reassigned to other approved functions. The expectation is that staff size will not have to expand in the future as other jobs are taken on if current resources can be better used. Because of this feature, DOD has not recorded any labor union opposition to the program.

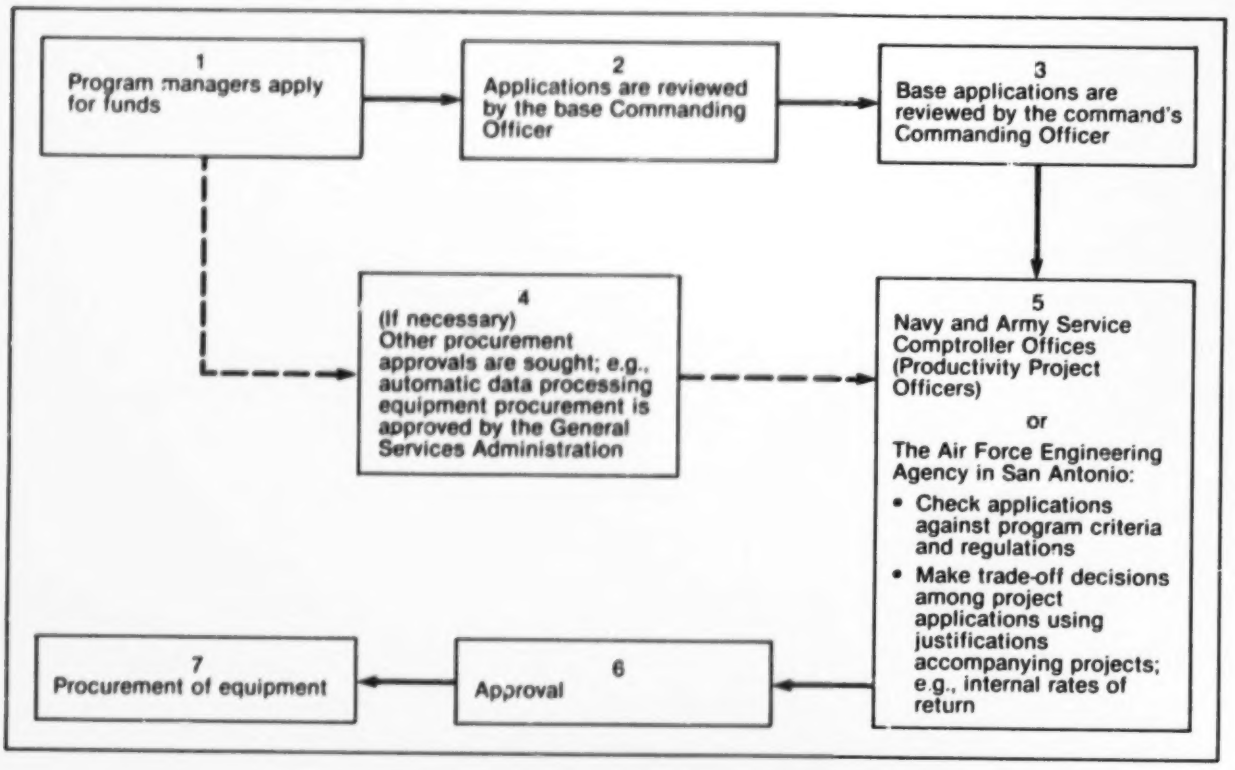
The most critical part of any grant program is the allocation phase, represented by box 3 on the chart. This aspect has changed the most over the course of the program. Within only one year (FY77), the Navy released its funds in five increments using four different allocation plans. In addition, Congress added a $40,000 limit on projects in FY79. Most recently, at DOD's request, Congress increased the size of projects to as much as $100,000, and DOD has moved toward a standard method for deciding which projects should be funded. The method, called an "internal rate of return"**, weighs the justification of a project against the cost of borrowing funds to finance it.

In order to explain further the application approval process contained in box 3, a simplified description of that process is represented in another diagram in Chart 2, "The Approval Process for PEIF Projects." This diagram shows that the applications for funds originate with DOD managers. The managers follow the regular chain of command for the review of applications from the base or installation level through the command structure. At the same time that they follow the chain of command, they obtain any other approvals that must be authorized for particular types of equipment such as GSA approval for ADP machines. The Navy and the Army authorize the final approval of applications at

*"Opportunity costs" in this context refer to savings that are foregone because of the delay in elapsed time between approval of a project and its implementation. If the same investment can be made under a more responsive and timely process, the return can lower the opportunity cost in comparison with a slower, less responsive arrangement.

**"Internal rate of return" refers to a computation method used to decide among competing potential investment projects. Essentially, the method weighs the justification of a project against its discounted cost or the cost of borrowing funds to finance the project. A project is thought to be acceptable if its rate of return is greater than these costs, using a 10% discount rate prescribed by OMB in circular A-94.

Chart No. 2 The Approval Process for PEIF Projects


1
Program managers apply for funds
2
Applications are reviewed by the base Commanding Officer
3
Base applications are reviewed by the command's Commanding Officer
4
(If necessary)
Other procurement approvals are sought; e.g., automatic data processing equipment procurement is approved by the General Services Administration
5
Navy and Army Service Comptroller Offices (Productivity Project Officers)
or
The Air Force Engineering Agency in San Antonio:
• Check applications against program criteria and regulations
• Make trade-off decisions among project applications using justifications accompanying projects; e.g., internal rates of return
6
Approval
7
Procurement of equipment

346-769 0 - 81 - 7

BEST DOCUMENT AVAILABLE

Chart 3 Comparison of the PEIF Program in FY77 and FY79

FUNDS

	FY77	FY79
Department of Army	$6.1 million	$5.9 million
Department of Navy	$6.7 million	$3.0 million
Department of Air Force	$6.5 million	$3.6 million
Defense Agencies (DLA)	—	$1.0 million
Total	$19.3 million	$13.5 million

MAJOR PROGRAM GUIDELINES

With the approval of funds, each military service initiated a program to administer them in keeping with the broad DOD guidance which required that:

- projects were expected to return investment costs within two years
- equipment acquired be limited to readily available off-the-shelf items requiring minimal modification
- only projects expected to produce "hard" (manpower or dollar) savings would qualify
- all projects would be within all legal constraints

Additional Guidelines were:

- appropriations could be used only for projects which cost less than $40,000; All other productivity enhancement projects were included in normal budget requests.
- before obligating the FY79 appropriation, DOD submitted a plan to the House Appropriations Committee showing how projects were to be evaluated and given a priority ranking, assuring their productivity enhancing nature
- provisions were made for post-audit of projects and a summary of audits developed
- budget submissions were to reflect the reutilization of personnel and other savings realized from prior-year projects

the comptroller's office within the respective services. If necessary, the comptroller's office makes trade-off decisions among projects at that point. Projects compete on the basis of the most favorable rate of return or the strength of the economic justification offered for the projects. In addition, the Productivity Project Officer within the comptroller's office also checks the applications against the DOD guidelines in order to ensure compliance.

During the time that the productivity enhancing capital investment program has been in existence, DOD has developed and modified the guidelines for the program. The basic purposes of the program have remained constant, but variations have occurred in provisions of the program. For example, the FY79 Congressionally imposed $40,000 limit on equipment purchases reflected an intention that the program focus on relatively small cost equipment. Furthermore, the funding levels for the program have changed from one year to the next and, as of FY79, the program requires post-investment audits of projects.

These variations in program guidelines and funding levels are summarized in Chart 3, "A Comparison of the PEIF Program in FY77 and FY79."

BEST DOCUMENT AVAILABLE

Chapter 3
Evaluation of the PEIF Program

Three Reviews

PEIF has attracted considerable attention from different, interested groups. For example, in 1977 Senator William Proxmire requested a General Accounting Office study of the program. That study, "Full Potential to Achieve Savings by Investing in Fast Payback Productivity-Enhancing Capital Equipment Not Realized", suggested changes in the program although GAO supported its basic notion and found areas where the program had produced savings. In addition, as part of a larger study of labor-capital substitution conducted for OSD, the RAND Corporation reviewed the PEIF program and reached a similar favorable conclusion about the program's concept. RAND issued its study, "DOD's Fast Payback Funds Are Paying Off", in 1977.

Finally, DOD itself carried out a study and issued a report on the program in March 1978, 1979, and 1980 describing the history of the program and its achievements.

The GAO Study

Because of the "independence" that the General Accounting Office has in reviewing programs and the project-by-project approach that it used, its evaluation of PEIF will be referred to several times.

As part of its review, GAO examined 41 fast payback investments at several military installations, and found some that were successful.

The following examples illustrate the benefits that can be achieved when investments are made properly in productivity-enhancing capital equipment.

- A supply group acquired two stock selector trucks for $24,750 which will result in annual savings of $16,100 and payback in 18 months by releasing one employee for other work.
- A maintenance shop acquired a vertical band saw for $52,500 which will result in estimated annual savings of $47,050 and payback in 13 months by increasing productivity of the machine shop and reducing overtime payments.
- A maintenance shop acquired a chrome plating machine for $96,520 to refinish worn transmission parts instead of buying new parts, which will save an estimated $966,337 in the first year of operation. Savings of $325,871 are expected during the second year of operation and every subsequent year for the ten year economic life of the equipment.

On the other hand, GAO found some instances of capital investment that were not justified by the available data, or could not be adequately documented.

The following examples illustrate capital investment justifications that did *not* reduce operating costs or have supporting documentation.

- A justification for two power sweepers with estimated annual savings of $33,736 and a two-month payback was based on a savings of about 50 staff-hours weekly. However, the sweepers were only used to clean designated areas within two warehouses with no reduction in personnel time. Consequently, the sweepers will not pay back the investment costs.
- A justification for a line printer with estimated annual savings of $6,100 and a 1.3-year payback period was based on releasing a computer aide to do more work. But the aide was doing the same work as before the investment was made, so operating costs were not reduced and documentation was not available to show increased production.

Table 1 summarizes the GAO review of 41 PEIF projects. Nine projects had validated projected annual savings that totaled $1,279,207 at a total cost of $381,984. Nineteen projects had invalid projected estimates of savings, and thirteen others had projections unsupported by the data that GAO obtained.

Based on its review of the PEIF program, GAO found some specific deficiencies in the program's operation, primarily in the unsystematic identification of capital investment opportunities, the need for better economic analyses to justify projects, and the lack of documented savings that could be analyzed or evaluated. For the program to achieve the potential its sponsors had in mind, GAO recommended that the Secretary of Defense:

- assign a higher priority to identifying investment opportunities by instructing the military departments to develop a systematic approach to identifying fast payback investments;

BEST DOCUMENT AVAILABLE

Table 1 Summary of Fast Payback Investments Examined

No. of Projects	Cost	Annual Savings	Estimated Annual Savings		
			Land	Invest	Unexpected
8	$ 381,804	$1,278,207	$1,278,207		
19	2,085,744	2,548,536		2,548,536	
13	3,314,577	2,273,463			2,273,463
41	5,782,125	6,101,226	1,278,207	2,548,536	2,273,463

Source: General Accounting Office, FGMSD-78-44, July 25, 1978, p. 10.

- establish an awareness program to instruct managers and employees in the benefits of productivity improvement in general and the role of capital equipment investments in achieving improvements;
- assure sound economic justification of investments by requiring independent reviews prior to approval of investments;
- assure systematic feedback, independently verified, on benefits realized from investments;
- establish a procedure to assure that management decisions and employee proposals are rewarded when capital investments that result in productivity improvements are identified; and
- include in the budget justification for the program an audited accounting of savings and a list of related specific investments which resulted in productivity savings.

In conclusion, GAO went on to say that the program's basic concept was sound and added, "There is significant potential in DOD to achieve savings through increased productivity from capital equipment investments as demonstrated by the significant savings achieved on some of the investments reviewed."* In addition, GAO noted that this type of funding allows DOD to avoid the delay of the lengthy budget process. As a result, DOD realizes savings from equipment much sooner than it would under the traditional budget approval process. Finally, GAO recommended to the Congress that the program be continued.

The Defense Productivity Program Office Report

In March, 1979, the Defense Productivity Program Office submitted a status report on the PEIF program to the Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics. That report cited several benefits that DOD derives from the program. Among these benefits are –

- PEIF projects capitalize on immediate savings potential. Since they recover costs within a two-year period or less, they can effect changes in resources needed to accomplish workloads and minimize the cost of lost opportunities more rapidly than would have been possible in the normal budget process.
- PEIF projects are small-dollar investments directly improving the work process of individuals or small groups of employees. In many cases, these projects not only reduce the cost of the operation but improve the product or service quality and make the job easier as well.
- To date, the PEIF program has been most successful in central support program activities. In general, these are labor intensive areas where there is a major concern for costs. Improvements generated in these areas can be used to release manpower for other related programs.

The report also identified certain incentives for managers to participate in the program including the fact that they may utilize productivity savings to accomplish other mission-directed programs and receive funding without regard to rank or functional area of improvement. In conclusion, the report found the program to be one of the more tangible areas of productivity improvement in the public sector.

The RAND corporation issued its program assessment, "DOD's Fast Payback Funds Are Paying Off," in 1977. That report supported many of the conclusions reached in the Defense productivity Program Office study.

Summary of Changes in the PEIF Program

The GAO study of the PEIF program made three major points about its operation.

First, the program needed to attract the attention of Defense managers who could identify projects at their facilities and request funds. Although the managers were offered the incentive of retaining their savings for other uses within their same

*U.S. General Accounting Office, *Full Potential to Achieve Savings By Investing in Fast Payback Productivity Enhancing Capital Equipment Not Realized*, FGMSD-78-44, July 25, 1978, p. 10.

BEST DOCUMENT AVAILABLE

appropriation accounts, they were simultaneously discouraged in that their grades and budgets could be reduced as a result of labor and cost savings. Now, however, with the passage of the Civil Service Reform Act, basic features of performance appraisal and the rewards for performance have changed. By emphasizing rewards for achievement, this legislation addresses one of the problems that confronts the PEIF program—providing managers with appropriate incentives to improve productivity. The expectation is that the management environment of the Federal government is now different and that Defense managers will want to take advantage of the PEIF program by systematically seeking out opportunities for capital investment.

Second, GAO recommended that the funding decisions be revised to force better justifications for grant proposals and for more independent decision-making. As a follow-up to this criticism, DOD now requires that grant requests be judged on the basis of internal rate of return on each investment.

Finally, GAO recommended that more data be kept on productivity savings so that projects funded under the program may be audited. DOD now requires that audit information be maintained on the projects.

Another concern is the reluctance of Congress, and especially the House Appropriations Committee, to approve funds for unspecified projects. A basic feature of the program is that it permits agency discretion in regard to what investments to make. The program was not funded in FY78 because of this very point. Now, however, the program will generate audit information to show how funds were spent on an *ad hoc* basis and to describe the results of the various investments. Congressional concerns should be met now.

The amount of documentation required for small equipment purchases remains an issue. Although the same equipment items can be obtained through the normal budget and procurement process, one major argument in favor of the PEIF program is the relative ease of obtaining funds for equipment. One study by DOD identified 27 separate decision points normally required for equipment acquisition. The PEIF program eliminates as many decision points as possible and reduces the almost three-year period required for equipment procurement to as short a time as possible. Nevertheless, the GAO study indicates that documentation for equipment purchases was deficient in the program's first year of operation. Of the 41 projects that GAO studied, only nine had data that supported the original estimates of productivity savings. By tightening program regulations, DOD hopes to improve the documentation on projects that are funded. The improved documentation should verify productivity savings in lower personnel requests and reduced budgets.

BEST DOCUMENT AVAILABLE

Chapter 4
Implications of the PEIF Program for Federal Productivity

As the GAO study in 1978 points out, many of the PEIF project savings could not be validated, due to lack of documentation for projected savings and supportable data. An interesting point about the program centers on the nine projects that GAO did validate. (A list of these nine projects with their associated costs is in Table 2.) GAO found that "hard savings" projected for this equipment *did* exist in the form of supportable data.

Although the results of the study did not indicate a high level of success, the program contained several sound investments. Even assuming that the "unsupportable" and "invalid" cases projects produced little or no savings, the nine validated projects would yield sufficient savings in 4.5 years to cover the costs of all 41 of the projects that were reviewed. In other words, the success of nine projects was great enough to support the payback for all 41 of the projects combined after less than 5 years.

Furthermore, in examining all 41 projects in the GAO study, another point emerges. Whether the data for projects savings was supportable or not, the projects with the fastest paybacks were the ones with the lowest cost. Stated another way, as the average cost per project increased, the period required for its payback increased. By limiting the dollar amounts of purchases, Congress has, in effect, limited the overall risk for the program. In the place of a few large purchases, DOD can acquire many small items that would pay for themselves in a relatively short time. If some projects fail, they can be compensated for in a short time. In addition, low cost items will require less time for installation and operator learning as opposed to higher cost, more complex equipment.

In addition, the Air Force conducted a comprehensive evaluation of their portion of the FY77 program. This evaluation indicated that 35% of their projects were realizing expected savings less than estimated. The Air Force requires reporting on a 90-day cycle following the date in implementation until the end of the payback period. An Air Force audit performed in March of 1978 generally supported these figures but did indicate some procedural and administrative discrepancies. The Air Force has taken action which is expected to correct these discrepancies in the 1980 program.

On the whole, the DOD program emphasis on low cost and high productivity appears to be a sound and workable approach for capital investment. Although DOD must periodically increase the ceiling level on investments in order to compensate for inflation, the department derives many benefits from the program as it is now structured.

Table 2 Capital Investment Projects with Validated Projected Annual Savings

	Type of Equipment	Cost	Validated Estimates of Annual Savings
1	Vertical Band Saw	$ 52,500	$ 47,050
2	Chrome Plating System (Machine)	96,520	966,337
3	Energy Management System	86,410	86,099
4	Small Arms Paint Spray System	4,031	3,353
5	24 Office copiers	42,270	61,275
6	2 copiers	44,403	24,591
7	2 Stock Selector Trucks	24,750	16,100
8	5 Portable Boring Bars	29,000	63,902
9	2 Field Test Dynamometers	2,100	10,500

Source: GAO, Communication, October 10, 1979.

BEST DOCUMENT AVAILABLE

Chapter 5
Conclusions: The Role of Capital Investment in Federal Productivity

Various studies on capital investment in Federal agencies have identified many opportunities where capital can produce savings. The joint CSC, GAO, OMB study found a backlog of $242 million in projects after only a limited survey of agencies in the early 1970s. Mechanisms that might be used to help fund these opportunities are essentially:

- a productivity bank or revolving fund,
- a Federal capital budget system,
- reprogramming existing funds, and
- a grant-fund program similar to the one used by DOD.

Although these four methods are not mutually exclusive and can be used simultaneously if Federal policies were changed to allow their use, the major example of an application of *any* of these approaches in the Federal government is DOD's PEIF Program.

PEIF allows DOD its own internal grant-in-aid program for capital investments that reduce labor and material costs. Although DOD recipients of these funds are not required to pay back their savings to a revolving fund, they are, nevertheless, expected to produce "hard savings." In turn, these savings are to be reflected in lowered budget requests in the future. More immediately, the savings could be used to finance other unfunded items in that unit's appropriation. Another major benefit is the elimination of part of the lengthy delay in approving funds to acquire equipment. Although all equipment purchases must follow procurement laws and regulations, the program does speed up the request/receipt part of the process. Because funds exist for internal distribution within DOD, specific requests for equipment capital escape the traditional budget process and its inherent three-year timetable.

For other Federal agencies to benefit from DOD's experience, it is important to review the points in GAO's evaluation. For the DOD program to reach its potential, GAO recommended:

- a systematic approach to identify projects that have fast payback;
- awareness programs to make managers and employees knowledge about the benefits of productivity improvement and the role of capital investments;
- economic justifications of projects and independent reviews of investments before approval;
- rewards when management decisions and employee proposals result in capital investments, improving productivity; and finally,
- independent verification of benefits from investments, with an audited accounting of savings.

These steps were recommended specifically to DOD but appear to be useful for any other agency.

Of course, there is a larger issue—the matter of how equipment contributes to the overall effectiveness of the organization in achieving its basic purpose. That basic purpose can be an aspect of the nation's defense, as the DOD program tries to serve, or some other government activity such as health, education, welfare, or law enforcement. To date, there is little or no experience in the Federal government in assessing the contribution of capital investment to organizational effectiveness. Nevertheless, in regard to the more narrow issue of achieving savings with capital investment, the DOD experience indicates that such a program can succeed.

In particular, the relatively low-cost projects that buy "off-the-shelf" technology appear to be adaptable investments that can produce measurable savings. These investments seems to be especially productive, in part because they involve relatively low-cost, off-the-shelf technology that has worked in other places. Consequently, they capitalize on proven technology that is easily applied to create a high payoff.

In addition, DOD's flexible grant approach shortens the approval time required to make investment money available to begin paying for itself sooner.

The DOD experience may be appropriate for other Federal agencies. Other applications of this approach will not only improve the productivity of the agencies involved, but will also broaden the experience of the Federal government in the use of productivity enhancing capital investment. For Federal agencies that have a high volume of capital investments, a program of this type may be a useful and flexible means of reducing procurement time and increasing returns from investments. Even if the volume of agency investments is limited, a pro-

BEST DOCUMENT AVAILABLE

gram of this nature might be initiated to focus managers' attention on productivity issues and encourage them to capitalize on investment opportunities. The DOD program shows that capital investments can contribute to the realization of savings when managers are informed about the program and act on it. By highlighting the role of capital investments through a separate and special program, managers in many agencies of different sizes may become aware as never before of the opportunities for productivity enhancement available to them.

Source Documents

Civil Service Commission, General Accounting Office, and the Office of Management and Budget, *Special Report No. 4: Analysis of Productivity-Enhancing Capital Investment Opportunities* (Washington, D.C.: 1973)

Department of Defense, "Productivity-Enhancing Capital Investments, Program Summary and Plan for FY1979" (March 1978)

Department of Defense, "Productivity-Enhancing Capital Investments, Program Status Report" (March 1979)

Department of Defense, "Directive No. 5010.31, DOD Productivity Program," (April 27, 1979)

Department of Defense, "Instruction No. 5010.34, Productivity Enhancement, Measurement and Evaluation—Policies and Responsibilities" (August 4, 1975)

BEST DOCUMENT AVAILABLE

Appendix
Nominations for Examples of Federal Productivity Improvements

The Exemplary Practices Program

The US Office of Personnel Management announced on November 30, 1979 a formal program to identify and document examples of productivity improvement in the Federal government. OPM is asking Federal managers, bureau heads, Assistant Secretaries for Administration and others to actively seek examples that can be documented for study and use by other agencies. OPM will review and substantiate examples that are transferable, and publish the most appropriate ones for use by managers throughout government.

In announcing the "Exemplary Practices in Federal Productivity Program," OPM Director Alan K. Campbell defined productivity as "superior organizational performance, including output per employee and to what degree the output satisfies program objectives". "Put another way," Campbell said, "productivity is concerned with both 'doing things right' and 'doing the right things'; it involves not just how much of a product or service is delivered but also quality, timeliness and responsiveness."

"Our purpose at this time is to find and share what's out there," according to James M. H. Gregg, head of OPM's Workforce Effectiveness and Development Group. "We know that many managers have made improvement over the years, but we need to analyze their results objectively, identify those projects which other managers might use, and simply make the most useful projects available to those persons responsible for improving productivity."

Types of Projects

Federal managers and others are asked to nominate projects, programs or other organizational examples of improved productivity, including instances of efficiency, effectiveness, responsiveness or accountability. Nominations may be in two categories:

(1) Total system improvements—where the total performance of an organization is improved; or,

(2) Unit improvements—where specific aspects of an organization are improved (for example, certain personnel improve their performance, or their work process is made more efficient).

Office of Productivity Programs
Office of Personnel Management
Washington, DC
December 1979

Nominations

To be eligible for consideration, nominations must include:

- Name of the project/program.
- Name of the agency and sub-unit.
- Location.
- Person in-charge and phone number.
- Starting and completion dates (one year minimum).
- Cost and/or number of employees involved.
- Goals and objectives.
- Means of achieving objectives (i.e., process, techniques, equipment, etc.).
- What was achieved (quantitative measures).

Nominations should be limited to 1,000 words or less but previously published materials may be attached.

Rather than have nominees spend undue time and effort on preparing detailed and lengthy nomination forms, OPM encourages agencies/managers to send an informal initial explanation of its proposed exemplary example. We will promptly review your summary and either call or write with an initial review. Nominations chosen for comprehensive review will then be subjected to intensive analysis and documentation, including on-site visits.

Clearances

OPM suggests but does not require that initial nominations be submitted through formal agency chains of command. We will however, if a nomination is submitted for intensive review, ask your Assistant Secretary for Administration for approval to publish the results.

Note: Nominations should be sent to:

Exemplary Practices in Federal Productivity
Office of Personnel Management
Office of Productivity Program—WED
P.O. Box 14108
Washington DC 20044

For additional details, contact Steve Bryant at the above address or call at (202) 632-7647.

BEST DOCUMENT AVAILABLE

Acknowledgements

U.S. Office of Personnel Management

Donald J. Devine, Director

James M. H. Gregg, Director,
Workforce Effectiveness and
Development Group

Blair G. Ewing, Assistant Director,
Office of Productivity Programs

G. Martin Lively, Director
Program Development Division

Jane Gill, Editor

Ed Koenig, Editor

Mike Cosell, Analyst

Betty Hauswirth, Information Program
Analyst

OPM gratefully acknowledges the assistance in developing this report provided by:

Walter B. Bergmann, II, DOD,
Director of Research Management Analysis,
Office of the Secretary of Defense

Dick Power, DOD, Director,
Defense Productivity Program Office

Bob Ackard, DOD, Project Officer,
Defense Productivity Program Office

John Leitch, GAO

Ed Soniat, GAO

U.S. GOVERNMENT PRINTING OFFICE : 1981 O - 346-769

BEST DOCUMENT AVAILABLE

Evaluation Form

WPR 7

To help OPM evaluate this publication, please complete and return this form. Thanks.

1. What is your general reaction to this booklet?

___ Excellent ___ Above Average ___ Average ___ Poor ___ Useless

2. To what extent do you think this booklet is useful in:
(Please check one on each line.)

	Very Useful	Fairly Useful	Not Useful
Motivating me to start a productivity program	_____	_____	_____
Helping me understand productivity improvement issues	_____	_____	_____
Providing an outline for my own productivity program	_____	_____	_____
Improving my own management skills in general	_____	_____	_____

3. Do you need further information, training, or technical assistance on productivity? If so, please specify your needs.

4. In what ways could this publication be improved? (please specify, e.g. structure, organization, content coverage, other?)

5. Please check one which best describes your position:

SES ___ Merit Pay Manager ___ First Line Supervisor ___ Other _____

No. of employees who report to you: _____ Directly _____ Indirectly?

6. (Optional)

Name _____

Position _____

Agency/Organization _____

Address _____

Telephone Number (___) _____

BEST DOCUMENT AVAILABLE

FOLD

U.S. Office of Personnel Management
Productivity Resource Center
Workforce Effectiveness and Development
P.O. Box 14108
Washington DC 20044

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO 12458 WASHINGTON, D C

POSTAGE WILL BE PAID BY OFFICE OF PERSONNEL MANAGEMENT

U.S. Office of Personnel Management
Office of Productivity Programs—WED
P.O. Box 14108
Washington DC 20044

FOLD

BEST DOCUMENT AVAILABLE